



Laramie Energy

End of Well Cement Report

Bruton 30-01E 05-077-10371
S:30 T:9S R:93W Mesa CO

CallSheet #: 864 (Surface), 865 (Production)
Proposal #: 13324



Attention: Mr. Chuck Mallary | (303) 859-3634 | cmallary@laramie-energy.com
Laramie Energy
1401 17th St, Suite 1400 | Denver, CO 80202

Dear Mr. Mallary,

Thank you for the opportunity to provide cementing services on this well. BJ Services strives to achieve complete customer satisfaction. If you have any questions regarding the services or data provided, please contact BJ Services at any time.

Sincerely,

Oscar Medrano

Technical Specialist-II | (307) 996-6222 | Oscar.Medrano@bjservices.com

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Table of Contents

Surface Post Job Report	3
1 Job Details & Summary.....	3
1.1 Geometry	3
1.2 Equipment / People	3
1.3 Timing.....	3
1.4 General Job Information	3
1.5 Job Details	3
1.6 Job Details (cont.).....	3
1.7 Circulation	3
1.8 Job Execution Information	4
1.9 Job Fluid Details	4
2 Job Logs.....	5
3 Water Analysis	7
4 Pump Diagrams.....	7
Production Post Job Report	8
1 Job Details & Summary.....	8
1.1 Geometry	8
1.2 Equipment / People	8
1.3 Timing.....	8
1.4 General Job Information	8
1.5 Well Fluid Details	8
1.6 Job Details	8
1.7 Job Details (cont.).....	8
1.8 Circulation	8
1.9 Job Execution Information	9
1.10 Job Fluid Details	9
2 Job Logs.....	10
3 Water Analysis	11
4 Pump Diagrams.....	11

Surface Post Job Report

1 Job Details & Summary

1.1 Geometry

Type	Function	OD (in)	ID (in)	Weight (lb/ft)	Thread	Top (ft)	Bottom (ft)	Excess (%)
Open Hole	Outer	n/a	11	n/a	n/a	0	1553	75
Casing	Inner	8.625	8.097	24	STC	0	1547	0

1.2 Equipment / People

Unit Type	Unit	Power Unit	Employee #1	Employee #2	Mileage
Bulk Trailer	503	6998	Agosto, Miguel		100
Cement Pump	PPC11250		Scott, Matthew		100
Light Duty Pickups	2		Staples, Anthony	Casciato, Luke	100
Cement Chemical	403		Martinez, Michael	Luff, Aaron	100

1.3 Timing

Event	Date/Time
Call Out	5/30/2017 21:30
Depart Facility	5/30/2017 22:30
On Location	5/31/2017 01:00
Rig Up Iron	5/31/2017 01:45
Job Started	5/31/2017 09:10
Job Completed	5/31/2017 10:35
Rig Down Iron	5/31/2017 10:50
Depart Location	5/31/2017 11:30

1.4 General Job Information

Metrics	Value
Well Fluid Density	8.9 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	300 bbls
Rig Circulation Time	0.5 hours
Calculated Displacement	95.7 bbls
Actual Displacement	94 bbls
Total Spacer to Surface	40 bbls
Total CMT to Surface	4 bbls

1.5 Job Details

Metrics	Value
Flare Prior to Job	No
Flare During Job	No
Flare at End of Job	No
Well Full Prior to Job	Yes
Well Fluid Density Into Well	8.9 lb/gal
Well Fluid Density Out of Well	8.9 lb/gal

1.6 Job Details (cont.)

Metrics	Value
BHCT	82 °F
BHST	106 °F

1.7 Circulation

Lost Circulation Experienced
No



1.8 Job Execution Information

Job	Fluid	Product	Function	Density (lb/gal)	Yield (ft ³ /sk)	Water Rq. (gal/sk)	Water Rq. (gal/bbl)	Volume (sk)	Volume (bbl)	Top (ft)
1	1	Water	Flush	8.33			42.00		40.00	0
1	2	ALTCem S100-12	Lead	12.00	2.53	14.85		191.00	85.94	0
1	3	ALTCem S100-12	Tail	12.50	2.22	12.58		107.00	42.37	1024
1	4	Water	DisplacementFinal	8.33			42.00		95.00	0

1.9 Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom
1	2	Lead	ALTCem S100-12	AC3-10	Cement	100.00	%
1	2	Lead	ALTCem S100-12	ACL-10	Accelerator	2.00	lb/sk
1	2	Lead	ALTCem S100-12	ACL-20	Accelerator	5.00	%BWOB
1	2	Lead	ALTCem S100-12	ADF-11	Defoamer	0.30	%BWOB
1	2	Lead	ALTCem S100-12	ALC-10	LostCirculation	0.13	lb/sk
1	2	Lead	ALTCem S100-12	AXE-30	Extender	2.00	lb/sk
1	3	Tail	ALTCem S100-12	AC3-10	Cement	100.00	%
1	3	Tail	ALTCem S100-12	ACL-10	Accelerator	2.00	lb/sk
1	3	Tail	ALTCem S100-12	ACL-20	Accelerator	5.00	%BWOB
1	3	Tail	ALTCem S100-12	ADF-11	Defoamer	0.30	%BWOB
1	3	Tail	ALTCem S100-12	ALC-10	LostCirculation	0.13	lb/sk
1	3	Tail	ALTCem S100-12	AXE-30	Extender	2.00	lb/sk



2 Job Logs

Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
1	Call Out	5/30/2017	21:30					BJ Crew was called out to Laramie Energy Surface.
2	Pre-Convoy Safety Meeting	5/30/2017	22:00					BJ Crew discussed routes and hazards associated with driving such as, wildlife on roads, traffic, and speed limits.
3	Depart Facility	5/30/2017	22:30					BJ Crew departs facility, heads to location
4	Arrive on Location	5/31/2017	01:00					BJ Crew arrives on location
5	Assess Location	5/31/2017	01:15					BJ Crew conducted a walk around of location and discussed how to spot in equipment
6	Spot Equipment	5/31/2017	01:30					BJ Crew spotted in all equipment
7	Pre-Rig up Safety Meeting	5/31/2017	01:40					BJ Crew discussed possible hazards associated such as, hammer swings, pinch points, and danger zones.
8	Rig Up	5/31/2017	01:45					Crew rigged up all iron and fittings
9	Other	5/31/2017	08:00					Rig landed 8.625 in casing at 08:00, circulated for 30 min, at 10 BPM, with 300psi
10	Safety Meeting	5/31/2017	08:30					BJ Crew, Rig Crew, and Company representative discussed job procedure as well as all hazards associated with such as, overhead loads, pinch points, slips trips and falls, and muster areas.
11	Start Job	5/31/2017	09:10					Crew begins job
12	Drop Bottom Plug	5/31/2017	09:11					Dropped bottom plug
13	Fill Lines	5/31/2017	09:12	8.33	2	2	40	pumped 2 BBL of H2O to fill lines.
14	Pressure Test	5/31/2017	09:13	8.33			3000	Pressure tested all lines to 3000psi, pressure held, no leaks.
15	Pump Spacer	5/31/2017	09:16	8.33	6	40	150	pumped 40 BBL of H2O spacer at 6BPM with 150psi
16	Shutdown	5/31/2017	09:23					shutdown to mix lead cmt
17	Pump Lead	5/31/2017	09:31	12	6	86	330	mixed and pumped 191sks, 86bbl of lead cmt at 12 ppg, 6bpm with 330psi
18	Pump Tail	5/31/2017	09:45	12.5	6	42	300	mixed and pumped 107sks, 42bbl of tail at 12.5ppg, 6bpm with 300psi
19	Shutdown	5/31/2017	09:55					shutdown to drop top plug



20	Drop Top Plug	5/31/2017	09:56					Dropped top Plug
21	Pump Displacement	5/31/2017	09:57	8.33	3	10	40	pumped 10bbl of displacement at 3 bpm washing on top of plug.
22	Increase Rate	5/31/2017	10:02	8.33	6	74	300	Increased rate to 6bpm for 74bbl of displacement
23	Slow Rate	5/31/2017	10:16	8.33	2	10	280	Slowed rate last 10 bbl of displacement to land top plug
24	Shutdown	5/31/2017	10:20					Landed top plug at a total of 94 bbl of displacement away. 4 bbl of cmt to surface. Landed plug at 300 psi, brought pressure to 2100 psi for ten min casing test
25	Check Floats	5/31/2017	10:30					Floats held, 1 bbl in return
26	End Job	5/31/2017	10:35					Crew ends job
27	Pre-Rig Down Safety Meeting	5/31/2017	10:40					BJ Crew discussed hazards of rig down such as slips trips and falls, hammer swings and pinch points.
28	Rig down	5/31/2017	10:50					Crew rigs down all iron and fittings
29	Pre-Convoy Safety Meeting	5/31/2017	11:00					Crew discussed all hazards associated with driving such as wildlife, and traffic
30	Depart Location	5/31/2017	11:30					Crew departs location, heads to facility

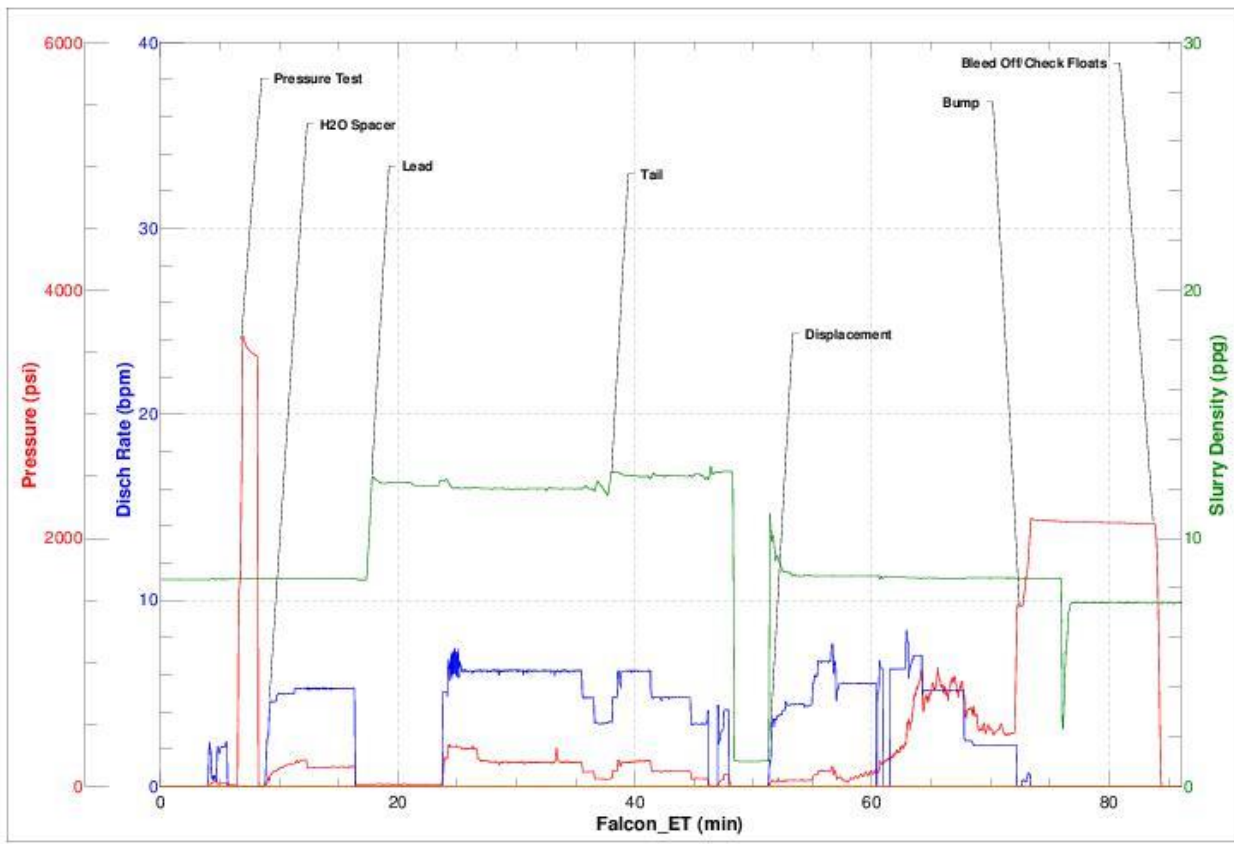
3 Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	60 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	100	0-1000
Total Hardness	<250 mg/L	0-500 mg/L
Carbonates	0 mg/L	0-100 mg/L
Sulfates	<500 mg/L	0-1500 mg/L
Potassium	200 mg/L	0-3000 mg/L
Iron	0 mg/L	0-300 mg/L

4 Pump Diagrams



JobMaster Program Version 4.02
Job Number: 864
Customer: Laramie Energy
Well Name: Bruton 30-01E



Job Start: Wednesday, May 31, 2017

Production Post Job Report

1 Job Details & Summary

1.1 Geometry

Type	Function	OD (in)	ID (in)	Weight (lb/ft)	Thread	Top (ft)	Bottom (ft)	Excess (%)
Casing	Outer	8.625	8.097	24	STC	0	1543	0
Casing	Inner	4.5	4	11.6	LTC	0	7690	0
Open Hole	Outer	n/a	8.88	n/a	n/a	1543	7700	10

1.2 Equipment / People

Unit Type	Unit	Employee #1	Mileage
Silo	6 (Silo)		
Silo	7 (silo)		
Bulk Trailer	E-527	Al-Ghareeb, Michael	100
Cement Pump	105	Casciato, Luke	100
Cement Chemical	403	Martinez, Michael	100
Light Duty Pickups	2	Staples, Anthony	100

1.3 Timing

Event	Date/Time
Call Out	6/3/2017 08:00
Depart Facility	6/3/2017 10:00
On Location	6/3/2017 11:45
Rig Up Iron	6/3/2017 12:00
Job Started	6/3/2017 16:56
Job Completed	6/3/2017 19:45
Rig Down Iron	6/3/2017 20:30
Depart Location	6/3/2017 21:30

1.4 General Job Information

Metrics	Value
Well Fluid Density	9.1 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	852 bbls
Rig Circulation Time	2.5 hours
Calculated Displacement	118.22 bbls
Actual Displacement	119 bbls
Total Spacer to Surface	4 bbls
Total CMT to Surface	0 bbls

1.5 Well Fluid Details

Metrics	Value
Plastic Viscosity	29
Yield Point	28
10 sec. SGS	10
10 min. SGS	23
30 min. SGS	64
Filtrate	6.4
Flow Line Temp.	84

1.6 Job Details

Metrics	Value
Flare Prior to Job	No
Flare During Job	No
Flare at End of Job	No
Well Full Prior to Job	Yes
Well Fluid Density Into Well	9.5 lb/gal
Well Fluid Density Out of Well	9.5 lb/gal

1.7 Job Details (cont.)

Metrics	Value
BHCT	177 °F
BHST	238 °F

1.8 Circulation

Lost Circulation Experienced
No

**1.9 Job Execution Information**

Job	Fluid	Product	Function	Density (lb/gal)	Yield (ft ³ /sk)	Water Rq. (gal/sk)	Water Rq. (gal/bbl)	Volume (sks)	Volume (bbl)	Top (ft)
1	1	CD Spacer	Spacer	11.00			33.15		40.00	115
1	2	ALTCem P100-X2	Lead	12.70	1.97	11.07		778.00	273.42	1024
1	3	ALTCem P70-X1	Tail	13.50	1.90	9.55		405.00	137.02	5534
1	4	Water w/ ASF-50	DisplacementFinal	8.33			41.92		119.00	0

1.10 Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom
1	1	Spacer	CD Spacer	ASR-20	StrengthRetrogression	179.73	lb/bbl
1	1	Spacer	CD Spacer	AR-10	Retarder	1.40	lb/bbl
1	1	Spacer	CD Spacer	ASF-20	Surfactant	0.50	gal/bbl
1	1	Spacer	CD Spacer	AVS-10	Viscosifier	0.80	lb/bbl
1	2	Lead	ALTCem P100-X2	AC3-10	Cement	100.00	%
1	2	Lead	ALTCem P100-X2	ABX-30	BondEnhancer	0.30	%BWOB
1	2	Lead	ALTCem P100-X2	ADF-11	Defoamer	0.30	%BWOB
1	2	Lead	ALTCem P100-X2	ADS-10	Dispersant	0.10	%BWOB
1	2	Lead	ALTCem P100-X2	AR-10	Retarder	0.50	%BWOB
1	2	Lead	ALTCem P100-X2	AVS-10	Viscosifier	0.10	%BWOB
1	3	Tail	ALTCem P70-X1	ACG-10	Cement	70.00	%
1	3	Tail	ALTCem P70-X1	AFA-10	Extender	20.00	%
1	3	Tail	ALTCem P70-X1	AXE-20	Extender	10.00	%
1	3	Tail	ALTCem P70-X1	ABX-30	BondEnhancer	0.20	%BWOB
1	3	Tail	ALTCem P70-X1	ADF-11	Defoamer	0.30	%BWOB
1	3	Tail	ALTCem P70-X1	AFL-10	FluidLoss	0.40	%BWOB
1	3	Tail	ALTCem P70-X1	AR-10	Retarder	0.30	%BWOB
1	3	Tail	ALTCem P70-X1	ASR-20	StrengthRetrogression	25.00	%BWOB
1	3	Tail	ALTCem P70-X1	AVS-50	Viscosifier	6.00	%BWOB
1	4	DisplacementFinal	Water w/ ASF-50	ASF-50	ClayProtection	0.08	gal/bbl



2 Job Logs

Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
1	Yard Call	6/3/2017	08:00					
2	Leave Yard	6/3/2017	10:00					
3	Arrive on Location	6/3/2017	11:45					Arrived on Location Rig Running Casing
4	Spot Trucks	6/3/2017	12:00					
5	Pre Rig up Safety	6/3/2017	12:10					Overview of Job assigned task
6	Rig Up	6/3/2017	12:15					
7	Pre-Job Safety	6/3/2017	16:20					Held STEACS Briefing with crew and rig
8	Load Lines	6/3/2017	16:56	8.34	2	2	100	
9	Pressure Test	6/3/2017	17:00	8.34			5000	
10	Spacer	6/3/2017	17:19	11	5	40	345	Batched and Pumped 11# Spacer
11	lead Cement	6/3/2017	17:40	12.7	5	30	280	Batched, Weigh, and pumped 778 sks of 12.7# Lead Cement
12	Rate Change	6/3/2017	17:46	12.7	6	240	360	
13	Tail Cement	6/3/2017	18:25	13.5	6	120	340	Batch and Pumped 405 sks of 13.5# Tail Cement. Top of Tail @ 4345 ft
14	Rate Change	6/3/2017	18:51	13.5	3	20	150	
15	Shut Down Wash Up	6/3/2017	19:02	8.34				Washed pump and lines. Get Head Lined Out for Displacement
16	Drop Plug	6/3/2017	19:09	8.34				
17	Displace	6/3/2017	19:10	8.34	8	80	1400	
18	Rate Change	6/3/2017	19:20	8.34	5	30	1800	
19	Rate Change	6/3/2017	19:28	8.34	3	9	1900	Final Lift was 1900psi
20	Bump	6/3/2017	19:34	8.34			2400	Bumped Plug at Calculated. No Cement to Surface, 4 Bbls of Spacer back
21	Casing Test	6/3/2017	19:35	8.34			3000	Went directly into Casing test per Customer Request
22	Check Foats	6/3/2017	19:45	8.34			0	Floats Held, 1.5 bbls Back
23	Rig Down	6/3/2017	20:00					
24	Leave Location	6/3/2017	00:00					

3 Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	68 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	240	0-1000
Total Hardness	0 mg/L	0-500 mg/L
Carbonates	8 mg/L	0-100 mg/L
Sulfates	0 mg/L	0-1500 mg/L
Potassium	250 mg/L	0-3000 mg/L
Iron	0 mg/L	0-300 mg/L

4 Pump Diagrams

